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Declaration under Rule 4.17:

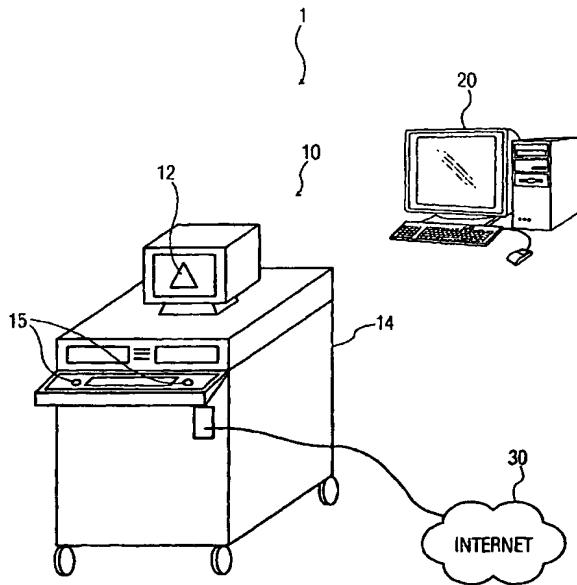
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations

Published:

— with international search report

[Continued on next page]

(54) Title: METHOD AND APPARATUS TO DISPLAY 3D RENDERED ULTRASOUND DATA ON AN ULTRASOUND CART IN STEREOVISION



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(57) Abstract: An ultrasound apparatus and method including an emitter to emit ultrasound signals, a receiver to receive reflected ultrasound signals, and a display unit to display a stereovision ultrasound image in real time from the reflected ultrasound signals. The apparatus also includes a generator to generate 3D ultrasound data volumes from the reflected ultrasound signals and a rendering processor to render the 3D ultrasound data volumes into first and second 2D images by streaming. A transport unit such as a cart houses the emitter, the receiver, the display unit, the rendering processor and the generator.



- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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29 July 2004

## INTERNATIONAL SEARCH REPORT

PCT/IB 03/05438

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01S7/52

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 993 391 A (KAMIYAMA NAOHISA) 30 November 1999 (1999-11-30) column 3, line 61 - column 11, line 67; figures 1-18	1,5,22
A	----- US 5 899 861 A (BROWN KATHERINE G ET AL) 4 May 1999 (1999-05-04) abstract column 5, line 24 - column 13, line 26; figures 1-8 -----	2-4, 6-15, 18-21, 23,24,31
A	----- -/-	1,3,5,8, 14,19, 22,24,31

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the International filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
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"T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the International search

26 February 2004

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21 05. 2004

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 11, 30 September 1999 (1999-09-30) & JP 11 155861 A (TOSHIBA CORP), 15 June 1999 (1999-06-15) abstract -----	1,5,22
A	US 6 413 219 B1 (AVILA RICARDO SCOTT ET AL) 2 July 2002 (2002-07-02) abstract column 3, line 60 - column 8, line 58; figures 1-10 -----	1,2,5,8, 12,17,22
A	US 6 048 312 A (HATFIELD WILLIAM THOMAS ET AL) 11 April 2000 (2000-04-11) abstract column 3, line 33 - column 14, line 23; figures 1-12 -----	1,4,5, 16,22,23
P,X	US 2003/013955 A1 (POLAND MCKEE D) 16 January 2003 (2003-01-16) abstract page 2, left-hand column, paragraph 19 - page 6, left-hand column, line 55; figures 1-5 -----	1,5,22

## INTERNATIONAL SEARCH REPORT

PCT/IB 03/05438

### Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-24, 31

#### Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

**1. claims: 1-24, 31**

Method and/or apparatus for generating ultrasound images by converting ultrasound signals to stereovision ultrasound images.

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**2. claims: 25-30**

Apparatus for generating ultrasound images by means of a scanner, buffers and a multiplexor for converting ultrasound signals to stereovision ultrasound images.

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## INTERNATIONAL SEARCH REPORT

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